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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/694,884 | 10/29/2003 | Koji Kanda | 1560-0401P | 4111 |

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EXAMINER

MCCLOUD, RENATA D

ART UNIT PAPER NUMBER

2837

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/694,884 | Applicant(s) KANDA, KOJI | |
| | Examiner Renata McCloud | Art Unit 2837 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figure 1 of Applicant's drawings is a duplicate of Drawing 1 of JP10-258751, which is prior art.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "vehicle" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "vehicle running speed".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishizaki et al (US 6308122).

Claim 1: a steering apparatus (Fig. 1) which uses a steering motor (5) to supply a steering mechanism (1) with force corresponding to a steering amount applied to a steering member (2), comprising: a reaction force motor (Fig. 1:3); a current sensor (Fig. 1: 7) sensing the steering motor current; a controller (Fig. 1:4) capable of extracting a component within a frequency range out of the sensed current; and driving the motor so as to supply the steering

member with a force corresponding to the extracted component and the steering amount (Col. 5:25-41; also, it has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138.)

Claim 2: the controller (4) is capable of amplifying the extracted component (it has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138).

Claim 9: the controller (4) is capable of setting a target force adding the target value of the force to the extracted component wherein the controller drives the motor based on the addition (it has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138.)

Claim 10: the steering member (Fig. 1:2) and mechanism (Fig. 1: 1) are not mechanically connected (col. 8:52-58)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Discenzo (US 6097286) in view of Kurishige et al (US 6161068).

Claims 1 and 11: Discenzo teaches a steering apparatus (Fig. 1) which uses a steering motor (28) to supply a steering mechanism with force corresponding to a steering amount applied to a steering member (22), comprising: a reaction force motor (Fig. 1:38); a torque sensor (Fig. 1:36) sensing the steering motor torque; a means for filtering a component within a frequency range out of the sensed torque (Col. 2: 54-65); and driving the reaction force motor (38) so as to supply the steering member with a force corresponding to the extracted component and the steering amount (Col. 2:54-3:10). Discenzo does not teach a current sensor. Kurishige et al teach a current sensor (9) and that torque is proportional to current (Col. 1:44-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Discenzo to sense current as taught by Kurishige in order to provide an assist torque to the motor.

Claim 21: Discenzo teaches a steering apparatus (Fig. 1) which uses a steering motor (28) to supply a steering mechanism (30) with force corresponding to a steering amount applied to a steering member (22), comprising: a steering motor (28); a reaction force motor (Fig. 1:38); a torque sensor (Fig. 1:36) sensing the steering motor torque; a means for filtering a component within a frequency range out of the sensed torque (Col. 2: 54-65); and driving the reaction force motor (38) so as to supply the steering member with a force corresponding to the extracted component and the steering amount (Col. 2:54-3:10). Discenzo does not teach a current sensor. Kurishige et al teach a current sensor (9) and that torque is proportional to current (Col. 1:44-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Discenzo to sense current as taught by Kurishige in order to provide an assist torque to the motor.

Discenzo and Kurishige et al teach the limitations of claims 1 and 11. Referring to claims 2-10 and 12-20:

Claims 2 and 12: Discenzo teaches a controller for amplifying the extracted component (Col. 2: 54-65).

Claims 3 and 13: Kurishige et al teaches a fixed amplification factor (col. 6:8-15, a control gain).

Claims 4, 8, 14, and 18: Kurishige et al teach a controller (20) amplifies (6) the component with an amplification factor that increases and decreases based on speed (Fig. 9a).

Claims 5, 6, 15, and 16: Kurishige et al teaches the filtering range is between 3-15 hz (Col. 5:44-48).

Claims 7, 17: Kurishige et al teach the range is fixed (Col. 5:44-48).

Claims 9, 19: Kurishige et al teach the controller sets a target force; adds the target value of the force to the extracted component, wherein the controller drives the motor based on the addition (Col. 6:8-18).

Claims 10, 20: Discenzo teaches the steering member (Fig. 1: 2) and mechanism (Fig. 1: 30) are not mechanically connected (Col. 1:19-25,41-44).

Response to Arguments

8. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

In response to Applicant's argument that Fig. 1 is not prior art, referring to JP10-258751, submitted in the IDS of 29 October 2003, Applicant's Fig. 1, is a duplicate of Drawing 1 of JP10-

258751, which published 29.09.1998. Therefore, Applicant's Fig. 1 is and should be labeled "Prior Art".

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 8 am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2800 ext. 4. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Renata McCloud
Examiner
Art Unit 2837

RDM


MARLON T. FLETCHER
PRIMARY EXAMINER